PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Commissioner
US Department of Commerce
United States Patent and Trademark Office, PCT
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CP2/5C24
Arlington, VA 22202
ETATS-UNIS D'AMERIQUE
in its capacity as elected Office

Date of mailing (day/month/year) 15 November 2000 (15.11.00)	
International application No. PCT/US00/11304	**Applicant's or agent's file reference** CM2094/6M
International filing date (day/month/year) 27 April 2000 (27.04.00)	**Priority date** (day/month/year) 28 April 1999 (28.04.99)
Applicant ASHTON, Kevin, John	

1. The designated Office is hereby notified of its election made:

   [X] in the demand filed with the International Preliminary Examining Authority on:

   06 October 2000 (06.10.00)

   [ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

   [ ] was not

   made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Claudio Borton

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PATENT COOPERATION TREATY

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	**FOR FURTHER ACTION** see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
CM2094/6M		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/US 00/ 11304	27/04/2000	28/04/1999
Applicant		
THE PROCTER & GAMBLE COMPANY		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

   a. With regard to the **language,** the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   [ ] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

   b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

   [ ] contained in the international application in written form.

   [ ] filed together with the international application in computer readable form.

   [ ] furnished subsequently to this Authority in written form.

   [ ] furnished subsequently to this Authority in computer readble form.

   [ ] the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

   [ ] the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. [ ] **Certain claims were found unsearchable** (See Box I).

3. [ ] **Unity of invention is lacking** (see Box II).

4. With regard to the **title,**

   [X] the text is approved as submitted by the applicant.

   [ ] the text has been established by this Authority to read as follows:

5. With regard to the **abstract,**

   [X] the text is approved as submitted by the applicant.

   [ ] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. 1

   [ ] as suggested by the applicant.

   [X] because the applicant failed to suggest a figure.

   [ ] because this figure better characterizes the invention.

   [ ] None of the figures.

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

14

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
CM2094/6M		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US00/11304	27/04/2000	28/04/1999
International Patent Classification (IPC) or national classification and IPC G06K17/00		
Applicant THE PROCTER & GAMBLE COMPANY		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 8 sheets, including this cover sheet.

   ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the report
   - II ☐ Priority
   - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement
   - VI ☐ Certain documents cited
   - VII ☒ Certain defects in the international application
   - VIII ☒ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
06/10/2000	19.06.2001
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Grob, M Telephone No. +49 89 2399 2620

Form PCT/IPEA/409 (cover sheet) (January 1994)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US00/11304

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:
Description, pages:

1-3	as originally filed

Claims, No.:

1-11	as originally filed

Drawings, sheets:

1/5-5/5	as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

   These elements were available or furnished to this Authority in the following language: , which is:

   - ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
   - ☐ the language of publication of the international application (under Rule 48.3(b)).
   - ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

   - ☐ contained in the international application in written form.
   - ☐ filed together with the international application in computer readable form.
   - ☐ furnished subsequently to this Authority in written form.
   - ☐ furnished subsequently to this Authority in computer readable form.
   - ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
   - ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

   - ☐ the description, pages:
   - ☐ the claims, Nos.:

☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 3.

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 3 are so unclear that no meaningful opinion could be formed (*specify*):
see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the standard.

☐ the computer readable form has not been furnished or does not comply with the standard.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Yes: Claims 8,11

	No:	Claims	1,2,4-7,9,10
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1,2,4-11
Industrial applicability (IA)	Yes:	Claims	1,2,4-11
	No:	Claims	

2. Citations and explanations
see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. Claim 3 defines a storage system in which the sensor is arranged to receive signals from a transponder comprising a multi-bit **magnetic** tag. However, in the embodiment of the present application, the sensor corresponds to the antenna 3 which is designed for receiving radio frequency signals. Implicitly the antenna 3 detects a changing **electric** field. It is not clear from the application how this antenna 3 would be able to detect a multi-bit magnetic tag since the antenna 3 is not capable of detecting a **stationary magnetic** field. In addition, to be able to read such a multi-bit magnetic tag, it is normally necessary to provide relative movement between the tag and the sensor. No such means for providing relative movement are disclosed in the present application. In any case, it is very doubtfully whether a **magnetic** tag attached to the item 7 in the way illustrated in Fig 1 would be readable in any manner, since magnetic reading of the data bits usually requires **close proximity** between the magnetic material of the tag and the sensor. For these reasons, the description does not disclose the invention defined by claim 3 in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. Hence, the requirements of Articles 5 and 6 PCT are not met in so far as claim 3 is concerned. Consequently, no opinion with regard to novelty, inventive step and industrial applicability can be made with regard to claim 3.

1.1 It seems that claim 3 should be deleted.

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1 = WO-A-97 39 398
D2 = WO-A-99 05 660

2. D1 discloses (cf Fig 1 and the corresponding text in the description) a storage system useful in merchandising and inventory control. The system comprises a central computer 2, a plurality of shelves (not shown) for storing items (not shown) and a plurality of electronic shelf labels 7. The central computer 2 communicates with the shelf labels 7 via IR transceivers 4. The shelf label in Fig 4A comprises a CPU 40, a wireless transceiver 21, a price register 44, and a screen 22 for displaying the price of the items on a shelf. The shelf label in Fig 4A also stores a product ID which corresponds to the items stored on the shelf. In use, the user employs the portable unit 6 (cf Fig 1) to read the product ID stored in the electronic shelf label (cf Fig 9) so as to sum-up the items placed in a shopping cart. The aim of the system in D1 is to avoid time consuming scanning of the selected items at the check-out. Inventory control can be performed using the portable unit 6 (cf Fig 11). The shelf label is read and the quantity to order is manually entered into the portable unit 6 and then uploaded to the central computer.

2.1 Although it is noted that D1 does not use items having transponders and does not comprise shelves having sensors for reading these transponders, claim 1 is drafted in such broad terms (because of the word "associated") that it can be read onto the storage system of D1. In claim 1, the supports, the items and the data processing unit correspond to the shelves, the products on the shelves and the central computer 2 in D1. In addition, the shelves (supports) in D1 are associated (functionally in conjunction) with the portable unit 6 (which has a sensor 21, cf Fig 4A) to detect the presence of electronic shelf label transponders 7 associated with items stored on the shelves (supports). The information read from the electronic shelf label transponders 7 is read by the portable unit 6 and transmitted to the central computer 2. Hence, the subject-matter of claim 1 lacks novelty and therefore the requirements of Articles 33(2) and 33(3) PCT are not met.

2.2 The dependent claims 2,4-11 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step. For example, the electronic shelf labels 7 in D1 store the product ID and use a wireless transceiver 21. Hence, the labels 7 are RFID tags and the portable units 6 receive signals from these tags. The shelf labels of D1 have displays 22, and the storage system of D1 clearly has

shelves. Furthermore, an inventory control system is shown in Fig 11 of D1. In addition, the central computer stores a stock control database (cf step 97 in Fig 11). Hence, it follows that the features of claims 2,4-7 are known from D1. The feature of claim 8 is a standard feature of a stock control database. Moreover, the system of D1 is capable of updating the price on the screen 21 of a label 7 by sending a message via the transponders 4. Hence, the features of claim 9 are not new. The features added by claims 10 and 11 are considered to be obvious features of an inventory system of the type illustrated in D1.

3. D2 discloses an article inventory system for a library. Each article (e.g. a book) stored in the system is provided with a RFID tag. Fig 9 shows a shelf scanning inventory system 120 for the library (cf page 35, line 22 to page 38, line 10). The articles 22 with their RFID tags are stored on shelves 124. A portable RFID scanner 42 reads the ID from each tag and stores the information in the portable computer 122. The read information is transmitted to the computer 48 for updating the database 66. This system allows missing or mislocated articles to be identified (cf page 37, lines 16 and 25).

3.1 Although it is noted that D2 does not comprise shelves having sensors for reading the RFID transponders, claim 1 is drafted in such broad terms (because of the word "associated") that it can be read onto D2. In claim 1, the supports, the transponders, the items and the data processing unit correspond to the shelves 124, the RFID tags 54, the books on the shelves and the computer 48 in D2. In addition, the shelves (supports) in D2 are associated (functionally in conjunction) with the portable RFID scanner 42 (which has a sensor) to detect the presence of RFID transponders attached to the items (books) stored on the shelves (supports). The information stored in the RFID transponders 54 is read by the portable RFID scanner 42 and transmitted to the computer 48. Hence, the subject-matter of claim 1 lacks novelty and therefore the requirements of Articles 33(2) and 33(3) PCT are not met.

3.2 Furthermore, the features added by claims 2,5-7,10 are also known from D2 (cf paragraph 3 above).

4. To distance the storage system of this application from the systems in D1 and D2,

it would be appropriate to amend claim 1 so that the sensors (antennas 3) are formed in the supports (shelves 1) and the transponders 6 are attached to the items 7. This arrangement allows stock control to be performed without use of personnel. Neither D1 nor D2 suggests providing sensors in the supports (shelves) for reading information from the transponders attached to the items.

Re Item VII

Certain defects in the international application

1. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1,D2 is not mentioned in the description, nor are these documents identified therein.

1.1 On filing new claims, the description (cf pages 1-2) would have to be brought into conformity with these new claims as required by Rule 5.1(a)(iii) PCT.

1.2 The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).

1.3 Contrary to the requirements of Rule 6.3(b) PCT, the independent claim 1 is not properly cast in the two-part form.

Re Item VIII

Certain observations on the international application

1. The feature following the expression "for example" (cf last two lines of claim 1) has no limiting effect on the scope of the claim (cf Guidelines PCT/GL/3, 4.6). Hence, it would be appropriate to replace the words "for example a data processing unit" (cf last two lines of claim 1) by "processing means".

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International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : G06K 17/00

A1

(11) International Publication Number: WO 00/65532

(43) International Publication Date: 2 November 2000 (02.11.00)

(21) International Application Number: PCT/US00/11304

(22) International Filing Date: 27 April 2000 (27.04.00)

(30) Priority Data:
99303314.1 28 April 1999 (28.04.99) EP

(71) Applicant *(for all designated States except US)*: THE PROCTER & GAMBLE COMPANY [US/US]; One Procter & Gamble Plaza, Cincinnati, OH 45202 (US).

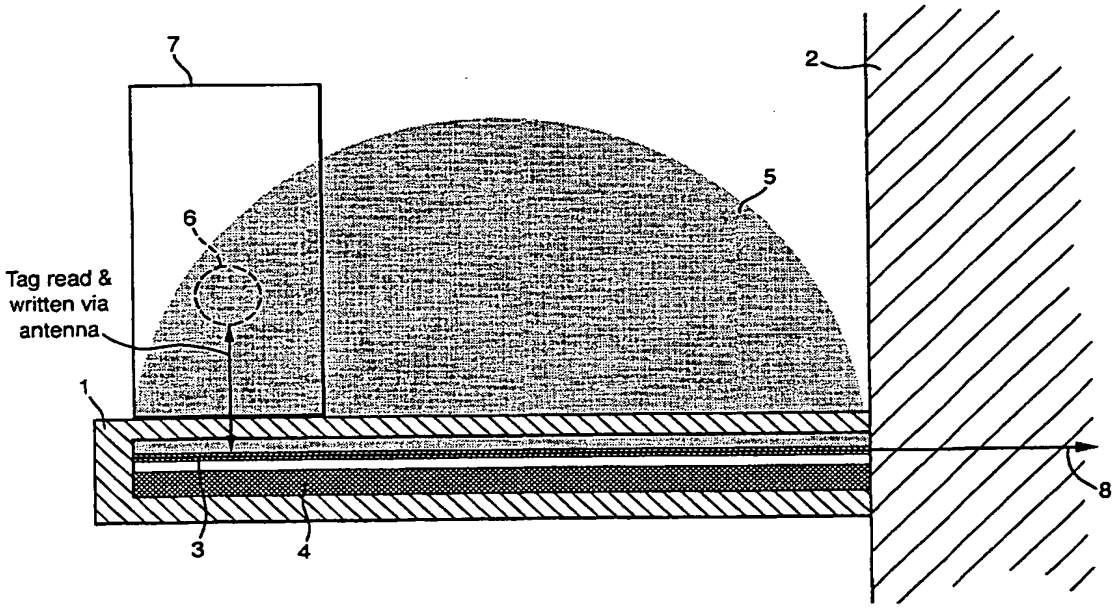
(72) Inventor; and
(75) Inventor/Applicant *(for US only)*: ASHTON, Kevin, John [GB/GB]; 8 St. Giles Road, London SE5 7RL (GB).

(74) Agents: REED, T., David et al.; The Procter & Gamble Company, 5299 Spring Grove Avenue, Cincinnati, OH 45217–1087 (US).

(81) Designated States: AE, AL, AM, AT, AT (Utility model), AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, CZ (Utility model), DE, DE (Utility model), DK, DK (Utility model), DM, EE, EE (Utility model), ES, FI, FI (Utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK (Utility model), SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: STORAGE SYSTEM



(57) Abstract

A storage system has one or more supports, for example, shelves (1) and, one or more sensors (3) which are arranged to detect the presence of transponders (6) associated with items (7) to be stored on the shelves. Information can thus be from the transponders, and transmitted to , for example, a data processing unit.

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Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 00/11304

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G06K17/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G06K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ, IBM-TDB, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 39398 A (ELDAT COMMUNICATION LTD) 23 October 1997 (1997-10-23) the whole document	1-11
X Y	WO 99 05660 A (CHECKPOINT SYSTEMS INC) 4 February 1999 (1999-02-04) column 14, line 3 -column 44, line 19; figures 1-12	1-3,6-8, 10,11 4,5,9
Y	US 5 548 282 A (ESCRITT CHRIS ET AL) 20 August 1996 (1996-08-20) column 7, line 26 -column 10, line 20; figures 1-18	4,5,9

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

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"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
11 July 2000	18/07/2000

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Degraeve, A

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

..nformation on patent family members

Inte...al Application No
PCT/US 00/11304

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9739398 A	23-10-1997	AU 2175997 A	07-11-1997
		EP 0954806 A	10-11-1999
WO 9905660 A	04-02-1999	US 5963134 A	05-10-1999
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US 5548282 A	20-08-1996	AT 171553 T	15-10-1998
		AU 666263 B	01-02-1996
		AU 6182594 A	10-11-1994
		DE 59406948 D	29-10-1998
		EP 0623873 A	09-11-1994
		JP 7143042 A	02-06-1995